

Composite Ti-NdFeB Magnets

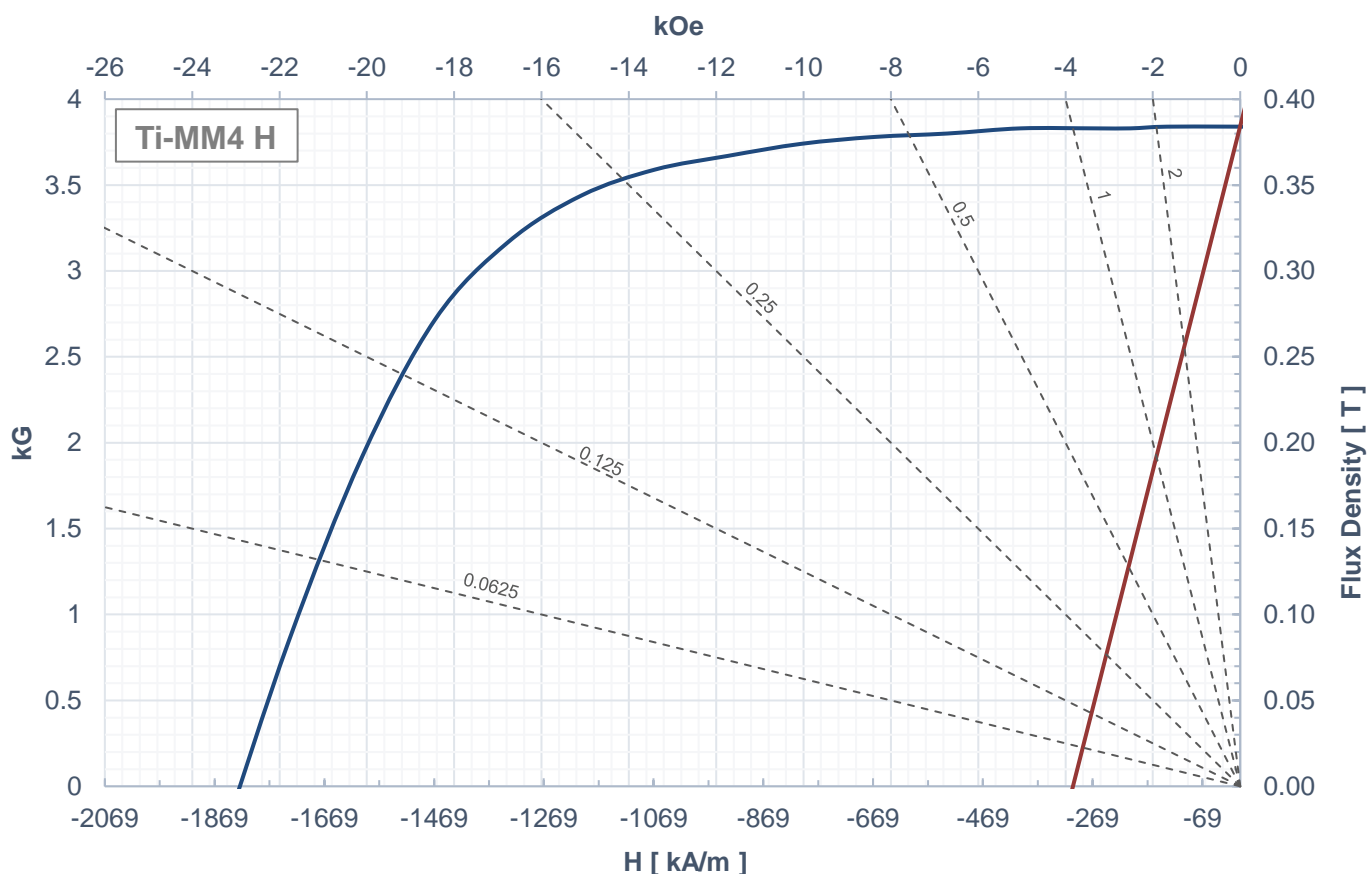
Titanium - Neodymium-Iron-Boron isotropic composite magnets offer a unique combination of high mechanical strength, fracture toughness, coercivity and corrosion resistance. Swiss made through eForging, they are offered in disks and blocks.

	Characteristic	Units	Min	Max
Magnetic Properties	Br Residual Induction	mT	377	386
		Gauss	3 775	3 855
	H_{cB} Residual Induction	kA/m	296	305
		Oersteds	3 719	3 833
	H_{cJ} Intrinsic Coercivity	kA/m	1 788	1 821
		Oersteds	22 469	22 883
BH_{max} Maximum Energy Product	kJ/m ³	27.89	29.32	
	MGOe	3.52	3.68	

	Characteristic	Units	
Thermal Properties	α (Br) Temperature coefficient of Induction	% / °C	Range 20-140 °C: -0.076 20-40 °C: 0.056
	α (HcJ) Temperature coefficient of Coercivity	% / °C	
	α_{CTE} Coefficient of Thermal Expansion	ΔL/L / °C · 10 ⁻⁶	8.47
	k Thermal Conductivity	kcal / m · hr · °C	10.19 [†]
	CP Specific Heat	cal / g · °C	0.111 [†]
	T_c Curie Temperature	°C	315 [†]

	Characteristic	Units	
Electrical - Mechanical	UTS Ultimate Tensile Strength	MPa	300
		psi	43511
	D Density	g / cm ³	5.98 ± 0.03
	Hardness Vickers	HV ₁	438
	ρ Electrical Resistivity	μΩ · cm	68.1-99.6 [†]

[†]estimated values



Technical Note

This material grade requires at least 3000 mT / 30.000 Gauss of field force to be magnetized to its full potential.